What is Claimed is:

1. A video processing method comprising the steps of:

dividing an entire input data region into three of first, second and third regions in order from the low level side thereof;

setting, as an output data characteristic to input data, a trapezoidal characteristic which is nonlinear and continuous as a whole and consists of a linear portion in said first region where the gain is greater than one, a linear portion in said second region where the gain is equal to one exactly or approximately, and a linear portion in said third region where the gain is smaller than one; and

correcting digital luminance data in accordance with said trapezoidal characteristic.

2. A video processing method comprising the steps of:

correcting digital luminance data in accordance with the trapezoidal characteristic which is nonlinear and continuous as a whole and consists of a linear portion in said first region where the gain is greater than one, a linear portion in said second region where the gain is equal to one exactly or approximately, and a

linear portion in said third region where the gain is smaller than one; and

executing gain control or hue control with regard to digital color difference data or other digital color data.

3. A video processing method comprising the steps of:

separating luminance data and color difference data from digital video data which are composed of the luminance data and the color difference data combined to be multiplex;

correcting the separated luminance data in accordance with the trapezoidal characteristic which is nonlinear and continuous as a whole and consists of a linear portion in said first region where the gain is greater than one, a linear portion in said second region where the gain is equal to one exactly or approximately, and a linear portion in said third region where the gain is smaller than one; and

executing gain control or hue control with regard to the separated color difference data.

4. A video processing method comprising the steps of:

dividing an entire input data region into three of

first, second and third regions in order from the low level side thereof;

setting, as an output data characteristic to input data, the trapezoidal characteristic which is nonlinear and continuous as a whole and consists of a linear portion in said first region where the gain is greater than one, a linear portion in said second region where the gain is equal to one exactly or approximately, and a linear portion in said third region where the gain is smaller than one;

setting, as another output data characteristic, an S-shaped characteristic which is nonlinear and continuous as a whole and consists of linear portions in said first and third regions where the gain is smaller than one, and a linear portion in said second region where the gain is greater than one;

selecting either said trapezoidal characteristic or said S-shaped characteristic; and

correcting digital luminance data in accordance with the selected characteristic.

5. A video processing method comprising the steps of:

selecting either the trapezoidal characteristic which is nonlinear and continuous as a whole and consists

of a linear portion in said first region where the gain is greater than one, a linear portion in said second region where the gain is equal to one exactly or approximately, and a linear portion in said third region where the gain is smaller than one or the S-shaped characteristic which is nonlinear and continuous as a whole and consists of linear portions in said first and third regions where the gain is smaller than one, and a linear portion in said second region where the gain is greater than one;

correcting the digital luminance data in accordance with the selected characteristic; and

executing gain control or hue control with regard to digital color difference data or other digital color data.

6. A video processing method comprising the steps of:

separating luminance data and color difference data from digital video data which are composed of the luminance data and the color difference data combined to be multiplex;

selecting either the trapezoidal characteristic which is nonlinear and continuous as a whole and consists of a linear portion in said first region where the gain

is greater than one, a linear portion in said second region where the gain is equal to one exactly or approximately, and a linear portion in said third region where the gain is smaller than one or the S-shaped characteristic which is nonlinear and continuous as a whole and consists of linear portions in said first and third regions where the gain is smaller than one, and a linear portion in said second region where the gain is greater than one;

correcting the separated luminance data in accordance with the selected characteristic; and

executing gain control or hue control with regard to the separated color difference data.

7. The video processing method according to claim 1, wherein said trapezoidal characteristic equalizes the width of the first region and that of the third region to each other.

8. The video processing method according to claim 4, wherein said S-shaped characteristic equalizes the sum of the widths of the first and third regions to the width of the second region.

9. A video processing device for correcting digital luminance data in accordance with the trapezoidal characteristic which is nonlinear and continuous as a

whole and consists of a linear portion in said first region where the gain is greater than one, a linear portion in said second region where the gain is equal to one exactly or approximately, and a linear portion in said third region where the gain is smaller than one, comprising:

a component generator for generating components including post-correction output luminance data in first, second and third regions from pre-correction input luminance data and data which determine the boundary value between the first and second regions and the boundary value between the second and third regions; and

a selective compositor for selecting the components generated by said component generator in response to signals for identifying the first, second and third regions, and producing post-correction output luminance data over the entire regions of the input luminance data.

10. A video processing device comprising:

a data separator circuit for separating luminance data and color difference data from digital video data which are composed of the luminance data and the color difference data combined to be multiplex; and

a luminance corrector circuit for correcting the

luminance data separated by said data separator circuit, in accordance with the trapezoidal characteristic which is nonlinear and continuous as a whole and consists of a linear portion in said first region where the gain is greater than one, a linear portion in said second region where the gain is equal to one exactly or approximately, and a linear portion in said third region where the gain is smaller than one.

11. A video processing device comprising:

a data separator circuit for separating luminance data and color difference data from digital video data which are composed of the luminance data and the color difference data combined to be multiplex; and

a luminance corrector circuit for correcting the luminance data separated by said data separator circuit, in accordance with either characteristic selected out of the trapezoidal characteristic which is nonlinear and continuous as a whole and consists of a linear portion in said first region where the gain is greater than one, a linear portion in said second region where the gain is equal to one exactly or approximately, and a linear portion in said third region where the gain is smaller than one and the S-shaped characteristic which is nonlinear and continuous as a whole and consists of

linear portions in said first and third regions where the gain is smaller than one, and a linear portion in said second region where the gain is greater than one.

12. A video processing device comprising:

a data separator circuit for separating luminance data and color difference data from digital video data which are composed of the luminance data and the color difference data combined to be multiplex;

a luminance corrector circuit for correcting the luminance data separated by said data separator circuit, in accordance with the trapezoidal characteristic which is nonlinear and continuous as a whole and consists of a linear portion in said first region where the gain is greater than one, a linear portion in said second region where the gain is equal to one exactly or approximately, and a linear portion in said third region where the gain is smaller than one; and

a control processing circuit for executing gain control or hue control with regard to the color difference data separated by said data separator circuit.

13. A video processing device comprising:

a data separator circuit for separating luminance data and color difference data from digital video data which are composed of the luminance data and the color

difference data combined to be multiplex;

a luminance corrector circuit for correcting the luminance data separated by said data separator circuit, in accordance with either characteristic selected out of the trapezoidal characteristic which is nonlinear and continuous as a whole and consists of a linear portion in said first region where the gain is greater than one, a linear portion in said second region where the gain is equal to one exactly or approximately, and a linear portion in said third region where the gain is smaller than one and the S-shaped characteristic which is nonlinear and continuous as a whole and consists of linear portions in said first and third regions where the gain is smaller than one, and a linear portion in said second region where the gain is greater than one; and

a control processing circuit for executing gain control or hue control with regard to the color difference data separated by said data separator circuit.

14. The video processing device according to claim 10, further comprising a data compositor circuit for compositing the output luminance data of said luminance corrector circuit and the output color difference data of said data separator circuit or said control processing circuit.

15. The video processing device according to claim 11, further comprising a data compositor circuit for compositing the output luminance data of said luminance corrector circuit and the output color difference data of said data separator circuit or said control processing circuit.

16. The video processing device according to claim 12, further comprising a data compositor circuit for compositing the output luminance data of said luminance corrector circuit and the output color difference data of said data separator circuit or said control processing circuit.

17. A digital video appliance comprising, as a video processor therein, a video processing device;

said video processing device for correcting digital luminance data in accordance with the trapezoidal characteristic which is nonlinear and continuous as a whole and consists of a linear portion in said first region where the gain is greater than one, a linear portion in said second region where the gain is equal to one exactly or approximately, and a linear portion in said third region where the gain is smaller than one, comprising:

a component generator for generating components

including post-correction output luminance data in first, second and third regions from pre-correction input luminance data and data which determine the boundary value between the first and second regions and the boundary value between the second and third regions; and

a selective compositor for selecting the components generated by said component generator in response to signals for identifying the first, second and third regions, and producing post-correction output luminance data over the entire regions of the input luminance data.

18. A digital video appliance comprising, as a video processor therein, the video processing device;

said video processing device comprising:

a data separator circuit for separating luminance data and color difference data from digital video data which are composed of the luminance data and the color difference data combined to be multiplex; and

a luminance corrector circuit for correcting the luminance data separated by said data separator circuit, in accordance with the trapezoidal characteristic which is nonlinear and continuous as a whole and consists of a linear portion in said first region where the gain is greater than one, a linear portion in said second region

where the gain is equal to one exactly or approximately, and a linear portion in said third region where the gain is smaller than one.

19. A digital video appliance comprising, as a video processor therein, the video processing device;

said video processing device comprising:

a data separator circuit for separating luminance data and color difference data from digital video data which are composed of the luminance data and the color difference data combined to be multiplex; and

a luminance corrector circuit for correcting the luminance data separated by said data separator circuit, in accordance with either characteristic selected out of the trapezoidal characteristic which is nonlinear and continuous as a whole and consists of a linear portion in said first region where the gain is greater than one, a linear portion in said second region where the gain is equal to one exactly or approximately, and a linear portion in said third region where the gain is smaller than one and the S-shaped characteristic which is nonlinear and continuous as a whole and consists of linear portions in said first and third regions where the gain is smaller than one, and a linear portion in said second region where the gain is greater than one.

20. A digital video appliance comprising, as a video processor therein, the video processing device;

said video processing device comprising:

a data separator circuit for separating luminance data and color difference data from digital video data which are composed of the luminance data and the color difference data combined to be multiplex;

a luminance corrector circuit for correcting the luminance data separated by said data separator circuit, in accordance with the trapezoidal characteristic which is nonlinear and continuous as a whole and consists of a linear portion in said first region where the gain is greater than one, a linear portion in said second region where the gain is equal to one exactly or approximately, and a linear portion in said third region where the gain is smaller than one; and

a control processing circuit for executing gain control or hue control with regard to the color difference data separated by said data separator circuit.

21. A digital video appliance comprising, as a video processor therein, the video processing device;

said video processing device comprising:

a data separator circuit for separating luminance data and color difference data from digital video data

which are composed of the luminance data and the color difference data combined to be multiplex;

a luminance corrector circuit for correcting the luminance data separated by said data separator circuit, in accordance with either characteristic selected out of the trapezoidal characteristic which is nonlinear and continuous as a whole and consists of a linear portion in said first region where the gain is greater than one, a linear portion in said second region where the gain is equal to one exactly or approximately, and a linear portion in said third region where the gain is smaller than one and the S-shaped characteristic which is nonlinear and continuous as a whole and consists of linear portions in said first and third regions where the gain is smaller than one, and a linear portion in said second region where the gain is greater than one; and

a control processing circuit for executing gain control or hue control with regard to the color difference data separated by said data separator circuit.

22. The digital video appliance according to claim 17, further comprising:

a memory capable of holding the stored content without any power supply or with a backup power supply; and

a controller for writing a control state relative to video data as a control parameter in said memory correspondingly to video identification information which specifies the video, or to characteristic descriptive information which describes the image characteristic, wherein, when the video data are to be outputted, said controller reads out the control parameter from said memory if the video identification information or the characteristic descriptive information relative to the output video data is stored in said memory and also if the control parameter corresponding to such information is stored therein, and said controller sets the control state for the output video data in accordance with the control parameter thus read out.

23. The digital video appliance according to claim 18, further comprising:

a memory capable of holding the stored content without any power supply or with a backup power supply; and

a controller for writing a control state relative to video data as a control parameter in said memory correspondingly to video identification information which specifies the video, or to characteristic descriptive information which describes the image characteristic,

wherein, when the video data are to be outputted, said controller reads out the control parameter from said memory if the video identification information or the characteristic descriptive information relative to the output video data is stored in said memory and also if the control parameter corresponding to such information is stored therein, and said controller sets the control state for the output video data in accordance with the control parameter thus read out.

24. The digital video appliance according to claim 19, further comprising:

a memory capable of holding the stored content without any power supply or with a backup power supply; and

a controller for writing a control state relative to video data as a control parameter in said memory correspondingly to video identification information which specifies the video, or to characteristic descriptive information which describes the image characteristic, wherein, when the video data are to be outputted, said controller reads out the control parameter from said memory if the video identification information or the characteristic descriptive information relative to the output video data is stored in said memory and also if

the control parameter corresponding to such information is stored therein, and said controller sets the control state for the output video data in accordance with the control parameter thus read out.

25. The digital video appliance according to claim 20, further comprising:

a memory capable of holding the stored content without any power supply or with a backup power supply; and

a controller for writing a control state relative to video data as a control parameter in said memory correspondingly to video identification information which specifies the video, or to characteristic descriptive information which describes the image characteristic, wherein, when the video data are to be outputted, said controller reads out the control parameter from said memory if the video identification information or the characteristic descriptive information relative to the output video data is stored in said memory and also if the control parameter corresponding to such information is stored therein, and said controller sets the control state for the output video data in accordance with the control parameter thus read out.

26. The digital video appliance according to claim

21, further comprising:

a memory capable of holding the stored content without any power supply or with a backup power supply; and

a controller for writing a control state relative to video data as a control parameter in said memory correspondingly to video identification information which specifies the video, or to characteristic descriptive information which describes the image characteristic, wherein, when the video data are to be outputted, said controller reads out the control parameter from said memory if the video identification information or the characteristic descriptive information relative to the output video data is stored in said memory and also if the control parameter corresponding to such information is stored therein, and said controller sets the control state for the output video data in accordance with the control parameter thus read out.